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FAX 404-881-0470  
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### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Maura C. Cannon, Francis C. Cannon, Gabriel J. McCool,  
Henry E. Valentin, and Kenneth J. Gruys

Serial No.: 09/479,040

Art Unit: 1634

Filed: January 7, 2000

Examiner: Arun K. Chakrabarti

For: **POLYHYDROXYALKANOATE BIOSYNTHESIS ASSOCIATED PROTEINS  
AND CODING REGION IN BACILLUS MEGATERIUM**

ATTN: EXAMINER ARUN CHAKRABARTI:

Enclosed are copies of the 1449 forms and signed Declaration for the above-identified patent application, as requested.



Susan Vincent, Legal Assistant

# 1462862\_v1

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NO. 8735 P. 2

NOV. 18. 2003 4:46PM HOLLAND & KNIGHT

NO. 3206 P. 2

Form PTO-1449 (modified)		App. Docket No. 11879.0312.NBUSD0 (MORT-212)	Serial No. 09/679,640
List of Patents and Publications for Applicant's		Applicant Maura C. Cannon et al.	
INFORMATION DISCLOSURE STATEMENT		Filing Date January 2, 2000	Class 1643
(Use several sheets if necessary)			
U.S. Patent Documents See Page 2	Foreign Patent Documents See Page 2	Other Art See Page 2	

### U.S. Patent Documents

Exam. Ref.	Doc. No.	Document Number	Date	Name	Class	Sub Class	Filing Date if Appropriate
AC	A1	5,942,660	08/24/99	Guyot et al.	800	294	04/04/96

### Foreign Patent Documents

Exam. Ref.	Doc. No.	Document Number	Date	Country	Class	Sub Class	Translation Year/No
	B1	WO 92/19747	11/12/92	ECT			
	B2	WO 93/04713	02/05/93	PCT			

### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Ref.	Doc. No.	Citation
	C1	International Search Report for PCT/US00/06364 dated June 14, 2000
	C2	Li, N. and Cannon, M.C., A Molecular Genetic Analysis of Polyhydroxyalkanoate (PHA) Accumulation in <i>Bacillus megaterium</i> , 95 <sup>th</sup> General Meeting of the American Society for Microbiology, 95: 547 (1995).
	C3	McCool, G. and Cannon, M.C., Identification and Characterization of the <i>phaBC</i> Locus from <i>Bacillus megaterium</i> , 97 <sup>th</sup> General Meeting of the American Society for Microbiology, 97: 238 (1997).
	C4	McCool, G. and Cannon, M.C., <i>Bacillus megaterium</i> polyhydroxyalkanoate gene cluster, complete sequence, EMBL Sequence Database, X0002138871 (1999).
	C5	McCool, G. and Cannon, M.C., Polyhydroxyalkanoate Inclusion Body-Associated Promoter and Coding Region in <i>Bacillus megaterium</i> , <i>Journal of Biotechnology</i> , 131: 585-592 (1999).
AC	C6	Pertinaxi, M.J., et al., Gene activation of the <i>Escherichia coli</i> <i>ata</i> structural genes by a regulatory protein from <i>Bacillus megaterium</i> : potential use in polyhydroxyalkanoate production, <i>Appl. Microbiol. Biotechnol.</i> , 49: 737-742 (1998).

EXAMINER:

*Arum K. Chakrabarti*

DATE CONSIDERED:

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PAGE 2/5 \* RCVD AT 11/18/2003 4:45:52 PM [Eastern Standard Time] \* SVR:USPTO-EFXXF-2/1 \* DNS:7464079 \* CSID:484 898 8002 \* DURATION (mm:ss):02:48

PAGE 2/11 \* RCVD AT 12/17/2003 10:42:08 AM [Eastern Standard Time] \* SVR:USPTO-EFXXF-1/1 \* DNS:8729306 \* CSID: \* DURATION (mm:ss):05:26

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NO. 3206 P. 3

Form PTO-1449 (modified).		App. Docket No. 11899.0212.NPUS08 (MOBT:213)	Serial No. 09/479,049
List of Patents and Publications for Applicant's INFORMATION DISCLOSURE STATEMENT (Use several sheets if necessary)		Applicant Maura C. Cannon et al.	
		Filing Date: January 7, 2000	Class: 1443
U.S. Patent Documents See Page 1	Foreign Patent Documents See Page 2	Other Art. See Page 2	

## Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Num.	Citation
AC	C7	Poirier, Y., et al., Production of Poly(hydroxyalkanoates), a Family of Biodegradable Plastics and Elastomers, in Bacteria and Plants, <i>Bio/Technology</i> , 13: 142-150 (1995).
	C8	Poirier, Y., et al., Progress Toward Biologically Produced Biodegradable Thermoplastics, <i>Adv. Mater.</i> , 5: 30-36 (1995).
Xc	C9	Valentin, H.E., et al., Metabolic pathway for biosynthesis of poly(3-hydroxybutyrate-co-4-hydroxybutyrate) from 4-hydroxybutyrate by <i>Alcaligenes eutrophus</i> , <i>Eur. J. Biochem.</i> , 227: 43-60 (1995).

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Form PFD-1449 (Modified) List of Patents and Publications for Applicant's Information Disclosure Statement		Atty Docket No. MOBT-WA-212		Serial No. 09/479,040		
Applicant(s): Gerard F. Barry, et al.						
Filing Date: February 22, 2000				Group: 1652		
U.S. Patent Documents						
Exam. Inx.		Patent Number	Issue Date	Inventor Name(s)	Class/Subclass	Filing Date
AC	A1	5,229,279	7/1993	Peoples, et al.	435/135	
	A2	5,612,608	4/1996	Peoples, et al.	536/23.2	
	A3	5,661,026	8/1997	Peoples, et al.	435/252.3	
	A4	5,683,063	9/1997	Peoples, et al.	435/135	
	A5	5,634,432	7/1998	Peoples, et al.	435/240.4	
	A6	5,245,023	9/1983	Peoples, et al.	536/23.2	
	A7	5,250,430	10/1993	Peoples, et al.	435/292	
	A8	5,480,794	8/1994	Peoples, et al.	435/232	
Foreign Patent Documents						
		Doc. Number	Date	Country	Class/Subclass	Translation Yes/No
	B1					
Other Information						
	C1	deSmet, R.J., G. Eggink, B. Witnolt, J. Kingma, and H. Wijnberg. 1983. Characterization of intracellular inclusions formed by <i>Pseudomonas oleovorans</i> during growth on octane. <i>J. Bacteriol.</i> , 154: 870-878.				
	C2	Dunlop, W. and A.W. Roberts. 1973. Ultrastructural study of poly- $\beta$ -hydroxybutyrate granules from <i>Bacillus cereus</i> . <i>J. Bacteriol.</i> , 114: 1271-1280.				
	C3	Eggink, G., P. de Waard, and G.N.M. Huijberts. 1992. The role of fatty acid biosynthesis and degradation in the supply of substrates for poly( $\beta$ -hydroxyalkanoate) formation in <i>Pseudomonas putida</i> . <i>FEMS Microbiol. Rev.</i> , 103: 159-184.				
	C4	Eller, D., D.G. Lundgren, K. Okamoto, and R.H. Marchessault. 1988. Morphology of poly- $\beta$ -hydroxybutyrate granules. <i>J. Mol. Biol.</i> , 35: 489-502.				
	C5	Fotler, R.C., J.P. O'Donnell, J. Savinier, T.E. Redinger, J. Foster, and R.W. Lenz. 1992. The supramolecular architecture of the polyhydroxyalkanoate inclusions in <i>Pseudomonas oleovorans</i> . <i>FEMS Microbiol. Rev.</i> , 103: 279-288.				
	C6	Gengroes, T.U., P. Reilly, J. Shubbe, A.J. Sinskey, and O.P. Peoples. 1983. Immunocytochemical analysis of poly- $\beta$ -hydroxybutyrate (PHB) synthase enzyme at the surface of PHB granules. <i>J. Bacteriol.</i> , 175: 5288-5293.				
AC	C7	Griebel, R., Z. Smith, and M. Merrick. 1968. Metabolism of poly- $\beta$ -hydroxybutyrate. 1. Purification, composition, and properties of native poly- $\beta$ -hydroxybutyrate granules from <i>Bacillus megaterium</i> . <i>Biochem.</i> , 7: 3676-3681.				

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NO. 3206 P. 5

Form PTQ 144B (Modified)

US Serial No. 09/137,440

Group Art Unit: 1662

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Other Information (see 'I')		
Ac	C9	Haywood, G.W., A.J. Anderson, L. Chu, and E.A. Dawes. 1988. Characterization of two 3-ketothiolases in the polyhydroxyalkanoate synthesizing organism <i>Alcaligenes eutrophus</i> . <i>FEMS Microbiol. Lett.</i> , 52: 91-96.
	C9	Huang, A.H.C. 1992. Oil bodies and oleosins in seeds. <i>Annu. Rev. Plant Physiol. Plant Mol. Biol.</i> , 43: 177-200.
	C10	Lauzier, C., R.H. Marchessault, P. Smith, and H. Charzy. 1992. Structural study of isolated poly( $\beta$ -hydroxybutyrate) granules. <i>Polymer</i> , 33: 823-827.
	C11	Lee, S.Y. 1995. Bacterial polyhydroxyalkanoates. <i>Biotechnology &amp; Engineering</i> , 48: 1-14.
	C12	Lundgren, D.G., R.M. Pfister, and J.M. Merrick. 1984. Structure of poly- $\beta$ -hydroxybutyric acid granules. <i>J. Gen. Microbiol.</i> , 34: 441-448.
	C13	McCool, G.J., T. Fernandez, N. Li, and M.C. Cannon. 1986. Polyhydroxyalkanoate inclusion-body growth and proliferation in <i>Bacillus megaterium</i> . <i>FEMS Microbiol. Lett.</i> , 137: 41-48.
	C14	Pieper-Furst, U., M.H. Madkour, F. Mayer, and A. Steinbüchel. 1984. Purification and characterization of a 14-kilodalton protein that is bound to the surface of polyhydroxyalkanoic acid granules in <i>Rhodococcus ruber</i> . <i>J. Bacteriol.</i> , 170: 4326-4337.
	C15	Pieper-Furst, U., M.H. Madkour, F. Mayer, and A. Steinbüchel. 1985. Identification of the region of a 14-kilodalton protein of <i>Rhodococcus ruber</i> that is responsible for the binding of this Phasin to polyhydroxyalkanoic acid granules. <i>J. Bacteriol.</i> , 177: 2513-2523.
	C16	Steinbüchel, A., K. Aerts, W. Babel, C. Folner, M. Liebigesen, M.H. Madkour, F. Mayer, U. Pieper-Furst, A. Pries, H.E. Valentin, and R. Wleczorek. 1995. Considerations on the structure and biochemistry of bacterial polyhydroxyalkanoic acid inclusions. <i>Can. J. Microbiol.</i> , 41: 94-105.
	C17	Steinbüchel, A., E. Hustedt, M. Liebigesen, U. Pieper, A. Timm, and H. Valentin. 1992. Molecular basis for biosynthesis and accumulation of polyhydroxyalkanoic acids in bacteria. <i>FEMS Microbiol. Rev.</i> , 103: 217-230.
	C18	Steinbüchel, A. and H.G. Schlegel. 1991. Physiology and molecular genetics of poly( $\beta$ -hydroxyalkanoic acid) synthesis in <i>Alcaligenes eutrophus</i> . <i>Mol. Microbiol.</i> , 6: 535-542.
	C19	Steinbüchel, A. and H.E. Valentin. 1985. Diversity of bacterial polyhydroxyalkanoic acids. <i>FEMS Microbiol. Lett.</i> , 125: 219-228.
	C20	Wang, W.B. and D.G. Lundgren. 1989. Poly- $\beta$ -hydroxybutyrate in the chemolithotrophic bacterium <i>Ferrobacillus ferroxidans</i> . <i>J. Bacteriol.</i> , 87: 947-950.
	C21	Wleczorek, R., A. Pries, A. Steinbüchel, and F. Mayer. 1995. Analysis of a 24-kilodalton protein associated with the polyhydroxyalkanoic acid granules in <i>Alcaligenes eutrophus</i> . <i>J. Bacteriol.</i> , 177: 2425-2435.
Ac	C22	Wleczorek, R., A. Steinbüchel, and B. Schmidt. 1998. Occurrence of polyhydroxyalkanoic acid granule-associated proteins related to the <i>Alcaligenes eutrophus</i> H16 GA24 protein in other bacteria. <i>FEMS Microbiol. Lett.</i> , 135: 23-30.

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